

## **REMARKS**

### **I. Introduction**

Claims 17 to 36 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicants thank the Examiner for considering the previously filed Information Disclosure Statement, PTO-1449 paper and cited references.

### **II. Objection to Claims 20 to 22 and 26**

As regards the objection to claims 20 to 22 and 26, while Applicants do not necessarily agree with the merits of this objection, to facilitate matters, claims 20 to 22 and 26 have been amended herein without prejudice to change "made up" to --consisting--.

The Examiner will additionally note that claim 20 has been amended herein without prejudice to change "or" to --and--.

It is therefore respectfully submitted that the present rejection has been obviated, and withdrawal of this rejection is respectfully requested.

### **III. Rejection of Claims 28 to 31 Under 35 U.S.C. § 112**

Claims 28 to 31 were rejected under 35 U.S.C. § 112, second paragraph as indefinite as allegedly failing to particularly point out and distinctly claim the subject matter of the invention. In this regard, the Examiner will note that claims 28 to 31 have been amended herein without prejudice to address the Examiner's objections. In view of the foregoing, it is respectfully submitted that claims 28 to 31 fully comply with the requirements of 35 U.S.C. § 112, and withdrawal of this rejection is respectfully requested.

### **IV. Rejection of Claim 17, 19 to 22, and 28 to 32 Under 35 U.S.C. § 103(a)**

Claims 17, 19 to 22, and 28 to 32 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,057,360 ("Osaka et al.") in view of WO 2001/044142 ("Scheying et al."), or U.S. Patent Application Publication No. 2003/0098529 ("Drumm et al."), or U.S. Patent No. 6,533,966 ("Nonninger et al."). It is respectfully submitted that the combination of Osaka et al., and Scheying et al. or

Drumm et al. or Nonninger et al., does not render unpatentable these claims for at least the following reasons.

Claim 17 relates to a method for preparing ceramic green compacts for ceramic components including, *inter alia*, preparing a second dispersion by homogenizing the first dispersion and the binder solution. According to the present claim, after a first dispersion by homogenizing a ceramic powder, one or more dispersing agents, and an organic acid in a solvent mixture, a second dispersion is prepared by homogenizing the first dispersion with a binder solution consisting of a ceramic powder, one or more dispersing agents, an organic acid, at least one acrylatemethacrylate copolymer as the binder, and at least one softener.

The combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. does not disclose or suggest these features. Osaka et al. relates to a method for preparing a ceramic green sheet including, ball milling a mixture of ceramic powder, solvent, and dispersant, and adding a binder and plasticizer to the mixture. Osaka et al. merely indicates homogeneously mixing a ceramic powder (zirconia or alumina) with a binder. Nowhere does Osaka et al. teach, or suggest, *preparing a second dispersion by homogenizing the first dispersion with a binder solution consisting of a ceramic powder, one or more dispersing agents, an organic acid, at least one acrylatemethacrylate copolymer as the binder, and at least one softener*. Scheying et al., Drumm et al., and Nonninger et al. do not cure this deficiency.

In view of the foregoing, it is respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. does not disclose or suggest all of the features of claim 17. As such, it is respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. does not render unpatentable claim 17.

Claims 19 to 22, and 28 to 32 depend from claim 17 and therefore include all of the features recited in claim 17. It is therefore respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. does not render unpatentable these dependent claims for at least the same reasons set forth above in support of the patentability of claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

**V. Rejection of Claims 23, 33, and 34 Under 35 U.S.C. § 103(a)**

Claims 23, 33, and 34 were rejected under 35 U.S.C. § 103(a) as unpatentable over Osaka et al. in view of Scheying et al., or Drumm et al., or Nonninger et al., further in view of WO 95/30503 ("McAlea et al."). It is respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al., and McAlea et al. does not render unpatentable these claims for at least the following reasons.

Claims 23, 33, and 34 depend from claim 17 and therefore include all of the features recited in claim 17. As indicated above, the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. does not disclose or suggest all of the features recited in claim 17. McAlea et al. is not relied upon as disclosing the features of claim 17 not disclosed or suggested by the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. Indeed, McAlea et al. does not disclose, or even suggest, the features of claim 17 not disclosed or suggested by the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al.

As such, it is respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al., and McAlea et al. does not render unpatentable claims 23, 33, and 34.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

**VI. Rejection of Claims 18, 27, 35, and 36 Under 35 U.S.C. § 103(a)**

Claims 18, 27, 35, and 36 were rejected under 35 U.S.C. § 103(a) as unpatentable over Osaka et al. in view of Scheying et al., or Drumm et al., or Nonninger et al., further in view of Journal of Materials Science 37 (2002), 926-934 ("Reddy et al."). It is respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al., and Reddy et al. does not render unpatentable these claims for at least the following reasons.

Claims 18, 27, and 35 depend from claim 17 and therefore include all of the features recited in claim 17. As indicated above, the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. does not disclose or suggest all of the features recited in claim 17. Reddy et al. is not relied upon as disclosing the features of claim 17 not disclosed or suggested by the combination of

Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. Indeed, Reddy et al. does not disclose, or even suggest, the features of claim 17 not disclosed or suggested by the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al.

As such, it is respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al., and Reddy et al. does not render unpatentable claims 18, 27, and 35.

Claim 36 relates to a piezo-multilayer actor which includes ceramic green compacts that are formed by performing methods that are analogous to the methods of claim 17, including, preparing a second dispersion by homogenizing the first dispersion and the binder solution. As such, it is respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al., and Reddy et al. does not render unpatentable claim 36 for at least the same reasons set forth above in support of the patentability of claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

## **VII. Rejection of Claims 24 to 26 Under 35 U.S.C. § 103(a)**

Claims 24 to 26 were rejected under 35 U.S.C. § 103(a) as unpatentable over Osaka et al. in view of Scheying et al., or Drumm et al., or Nonninger et al., further in view of <http://pubs.acs.org/cen/topstory/8005/8005notw5.html> ("C&EN") and [http://www2.mst.dk/common/Udgivramme/Frame.asp?http://www2.mst.dk/udgiv/publications/2001/87-7944-407-5/html/kap03\\_eng.htm](http://www2.mst.dk/common/Udgivramme/Frame.asp?http://www2.mst.dk/udgiv/publications/2001/87-7944-407-5/html/kap03_eng.htm) ("DEPA"). It is respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al., and C&EN and DEPA, does not render unpatentable these claims for at least the following reasons.

As an initial matter, there is no indication of a publication date for the DEPA document. As such, it is not apparent whether DEPA constitutes prior art against the present application.

Claims 24 to 26 depend from claim 17 and therefore include all of the features recited in claim 17. As indicated above, the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. does not disclose or suggest all of the features recited in claim 17. C&EN and DEPA are not relied upon as

disclosing the features of claim 17 not disclosed or suggested by the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al. Indeed, C&EN and DEPA do not disclose, or even suggest, the features of claim 17 not disclosed or suggested by the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al.

As such, it is respectfully submitted that the combination of Osaka et al., and Scheying et al. or Drumm et al. or Nonninger et al., and C&EN and DEPA does not render unpatentable claims 24 to 26.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

### **VIII. Conclusion**

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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